



# An evaluation of fraud risk management activities in government boards and parastatals in Nigeria

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## General Note



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## ABSTRACT

The continuous occurrence of frauds in government parastatals has become a matter of concern among researchers; this paper therefore was set out to evaluate fraud risk management activities in government boards and parastatals in Nigeria. The descriptive method of data analysis was adopted. Kendall's W – Test was used to test the rate to which fraud prevention, detection and response strategies can enhance fraud risk management activities. The sample size for purpose of completing the research questionnaire was 45, and 15 copies of the research instrument was administered in each of the sampled board and parastatals (HMB, PSIRS & PRTV). This paper revealed that fraud prevention, fraud detection and fraud response are effective strategies in fraud risk management activities in government boards and parastatals. This paper hereby recommended that in order to ensure fraud prevention, government should employ strategies such as installing culture/ policy of fraud risk awareness in place; provides fraud awareness training to staff; include fraud risk in the overall risk assessment process; and government organization should have a

formal reporting system on fraud risk exposure. To detect frauds, strategies such as fraud detection controls should be developed and instituted. In conclusion, fraud detection can be a meaningful mechanism and can detect risky situations early, before a fraud actually occurs or at least before the losses becomes high. When fraud prevention and detection controls are incorporated in the operating procedures, such as segregation of duties, monitoring of adherence to policies and procedures, the result is usually minimal fraud case incidence.

**Keywords:** Fraud Risk Management Activities, Government Boards, Parastatals, Prevention, Detection and Response.

## 1. INTRODUCTION

The public sector is a critical sector in every country of the world. It is the administrative machinery of the government and comprises of Ministries, Departments and Agencies (MDAs). Government Boards and Parastatals are some of the economic entities that form part of the Departments and Agencies which are usually saddled with the responsibility of carrying out essential activities. In a planned and mixed economies, the public sector owns more than 50% of all the economic activities in the country (Michie & Lobao, 2012). A whole lot of national resources are usually committed to these entities just to ensure the smooth functioning and delivery of government services and for the benefit of all and sundry. No doubt, government expect these agencies to always ensure proper management of the resources endowed in them (Nwokorie, 2017) hence many advanced countries are constantly using modern management strategies in their public sector organisations to ensure that government is not defrauded and resources at the disposal of chief executives are prudently managed, besides proper safeguarding of assets.

Government Boards and Parastatals are categorized into two: revenue generating centres and recurrent expenditure centres. The first category generates revenue for the government and only spends 10% of it on overheads, while the second category of these entities receives more than 90% from the government to augment their overhead costs. Both categories are susceptible to fraud, hence the need for effective fraud risk management.

According to the U.S Governmental Accountability Office (GAO, 2014), effective fraud risk management helps to ensure that federal programs' services fulfill their intended purpose, funds are spent effectively, and assets are safeguarded. Right from the time of independence, government has battled with issues of fraud and corruption in the country, particularly in the public sector (Jugu, 2007). In the recent past, government has had to come up with legislations such as that of the Independent Corrupt Practices Act (2000) and Economic and Financial Crimes Act (2004). These legislations, besides circular guidance issued from time to time, have focused chief executives of government Boards and Parastatals' attention on addressing all forms of fraudulent and corrupt practices. According to JuhanParts in European Court of Auditors (2019) stated that it "is a passionate and committed proponent of anti-fraud measures and a fierce opponent of fraudsters, underlining that it is essential to root out all forms of fraud and corruption in society. The lower the levels of fraudulent behaviour are in government and public administration, the cleaner the business world is and the better it is for your country's economic development." One point of the Transparency International Corruption Perception Index equals one percent point of GDP growth. So, in general, when there is less fraud, an economy is better developing (European Court of Auditors, 2019).

The deceptive nature of fraud however, makes it difficult to measure in a reliable way the corrupt activities that may not have direct pecuniary benefits to the perpetrators. Government agencies, like the counterparts in the private sector, need to consider adopting enterprise wide risk management approach that would aim at addressing the full spectrum of risks and challenges related to achieving their overall objective.

A study by the U.S Office of Management and Budget (OMB, 2014) has revealed that managers of government agencies have taken positive steps to address improper payments and to improve the integrity of government programs and activities. This has shown that opportunities exist for chief executives of government Boards and Parastatals to take a more strategic, risk-based approach to managing fraud risks and developing effective antifraud controls (GOA, 2015).

The employment of a full risk-based approach to addressing potential fraud in government Boards and Parastatals poses a unique set of challenges to chief executives, given the nature of their appointments, activities and mission. Most missions of government Boards and Parastatals are meant to provide the public with a broad range of critical and social amenities and services. Chief executives of government Boards and Parastatals may perceive a conflict between their priorities to please their political godfathers and the fulfilment of the agency's mission, such as maximizing government internally generated revenue, the efficient disbursement of funds or the provision of essential services to the citizenry, and at the same time taking actions to safeguard government assets from improper use. However, the purpose of proactively managing fraud risks is to facilitate, not to hinder, the

objective of government (GOA, 2015) and the strategic goals for establishing the Board or Parastatal by ensuring that government assets and services serve their intended purposes.

Fraud is a monster and a crime that comes in various forms, from management fraud to employees' fraud, from economic crime to financial crime, and from fraudulent practices to corruption. Since fraud is a perverse phenomenon, an organization is sure of minimizing the impact of this monster if the right fraud risk management activities are employed. Suffice it to say that fraud is a menace faced by economic entities irrespective of their types, sizes, locations, and industries, and the most common type of fraud is occupational/employees' fraud. While some organizations believe they have loyal employees working for their benefit and would hardly defraud them, others are full of skepticisms, hence the need for them to employ the right strategies for managing fraud risk, because employees can easily rationalize their motive to commit fraud, and in a way that might be difficult to detect. A study conducted by the Institute of Internal Auditors Research Foundation on the motivations of the perpetrators of occupational frauds and abuses found the fraud motivators of the following types (Wells, 2010): living beyond one's means; an overwhelming desire for personal gain; high personal debt; a close association with customers; the feeling that the pay was not commensurate with the work they do. According to ACFE (2014), a research conducted globally on Occupational Fraud and Abuse shows that the typical organization loses at least 5% of its annual revenue each year due to employees' fraud. Fraud prevention and detection in private sector entities are crucial activities for reducing this possible loss in revenue. Fraud and corruption are more common in the public sector than in the private sector (Jugu, 2007). Hence the need for government entities to evaluate the possibility of adopting similar strategies that would help in fraud prevention and control, as this is much easier than the recovering of losses after a fraud has been committed.

The main objective of this study is to evaluate fraud risk management activities in government boards and parastatals, while the specific objectives are to:

1. Examine the strategies that government boards and parastatals are using in managing fraud risk;
2. Evaluate if fraud prevention strategy is effective in government boards and parastatals;
3. Evaluate if fraud detection strategy is effective in government boards and parastatals;
4. Evaluate if fraud quick response strategy is effective in government boards and parastatals; and
5. Examine the kind of fraud deterrence policies that are put in place by government boards and parastatals in minimizing managing fraud risk.

The following research questions would help in addressing the research problem:

1. What strategies are government boards and parastatals using in managing fraud risk?
2. How effective is fraud prevention strategy in government boards and parastatals?
3. How effective is fraud Detection strategy in government boards and parastatals?
4. How effective is fraud quick response strategy in government boards and parastatals? And
5. What fraud deterrence policies are put in place by government boards and parastatals?
6. The following hypotheses are formulated and tested:

H<sub>01</sub>: Fraud prevention strategy is not effective in fraud risk management activities in government boards and parastatals;

H<sub>02</sub>: Fraud Detection strategy is not effective in fraud risk management activities in government boards and parastatals; and

H<sub>03</sub>: Fraud quick response strategy is not effective in fraud risk management activities in government boards and parastatals.

## Literature Review

Frauds and corruption have shown an unprecedented increase in Nigeria in recent years and have posed serious questions before the academics, researchers and professionals, on the effectiveness of fraud risk management strategy, internal control systems, and government regulatory mechanisms. With the high level of poverty, Nigeria, like many other developing countries, has been in the grip of frauds and corruption (Jugu, 2007). The enormous increase in number of fraud cases in Nigeria is as a result of the opportunities that are created by the victims through poor internal control system, the pressure in the culprit as a result of poor life style and poverty, and ample reasons for rationalizing their actions (Okoye et al. 2016). In the Western countries, particularly the UK and the USA, numerous studies in the finance, economics and law literature have been conducted with a view to ascertain incentives and monitoring deterrents of frauds committed in government organisations such as boards and parastatals, and to identify the loopholes in the government control systems (Alinsky, 1984). However, in Nigeria, a study on fraud risk management in government boards and parastatals appears to be lacking the attention of research scholars. This paper is set out to empirically examine the application of the three elements of fraud risk management in these very important government entities in Nigeria.

This section of the paper serves to elucidate the concept of fraud risk management. It indicates the measurable indicators of fraud risk in government boards and parastatals, thus paving the way for designing the data tools at a subsequent stage. With the

intention of giving due proportionate space to every significant point of the fraud and corruption issue, the whole conceptual discussion is organized under three sub-sections: (1) the general concepts of fraud and fraud risk management; (2) the underpinning theory of fraud; and (3) the review of empirical studies.

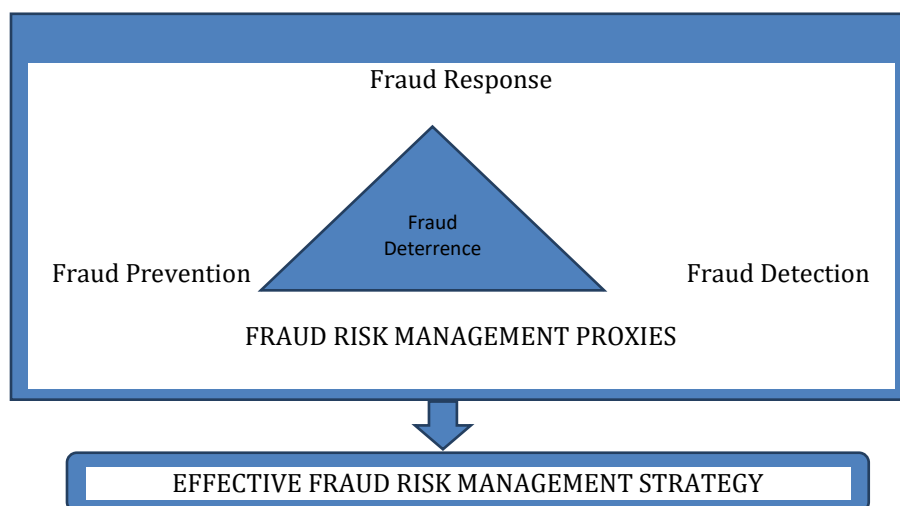
### Theoretical Framework

This study is anchored on Donald Cressey theory, which was developed in 1953 and is known as the 'fraud triangle', citing the three elements of this triangle as motivation/pressure, opportunity, and rationalisation. He described motivation as a non-shared financial problem, opportunity due to lack of internal control, and rationalisation as ability of a person to rationalise his behaviour. There are various factors which lead to pressure, opportunity, and rationalisation. The major ingredients of these three fraud elements are greed, high personal debt, poor credit rating, addictions that require money, weak internal control, excessive trust in certain employees, unprofessional environment, insufficient separation of duties, view of fraud as action less crime, the rules do not apply to me, and sense of entitlement (Sackett & Harris, 1984; Savage, 2003; Pontell, 2005; Sackett & Ones, Viswesvaran & Schmidt, 1993; ACFE, 2007; ASIS International, 2007; Scribd, 2009; AICPA, 2009; Wells, 2010; AICPA, 2010).

### Conceptual Framework

This subsection tries to reveal the scope and structure of a problem, the philosophy is to discuss how the problem in question has originated, disseminated, and evolved; and how it can be resolved for better fraud risk management activities if turned around. It study draws support from relevant models proposed in the fields of risk management.

The objective of fraud risk management is to ensure integrity in an organization by continuously and strategically mitigating the likelihood and impact of fraud and corruption. One of the objectives of an organisation is to facilitate the achievement of government agenda and strategic goals by helping to ensure that revenues are properly harnessed and funds are spent effectively, services fulfilled their intended purposes, and assets are safeguarded. The critical control activities for managing fraud risks fall into three general categories - prevention, detection, and response (GOA, 2015). These categories are interdependent and mutually reinforcing (Bartsiotas & Achamkulangare, 2017). Surprise audits are part of detection activities which provide deterrents against fraudulent activities. Activities such as these help to create the perception of controls and possibility of punishment that discourages fraudulent behaviour. In addition, response efforts can inform preventive activities, such as using the results of investigations to enhance applicant screenings and fraud indicators (GOA, 2015).



**Figure 1:** Conceptual Framework

Source: KPMG Forensic (2013) and GOA (2015) as Modified

Figure 1 depicts how the failure of preventive activities can lead to detection activities. If former is effective, cost-efficient use of resources would be achieved, since they enable organisations to avoid a costly and inefficient "pay-and-chase" model. Therefore, leading practices for strategically managing fraud risks emphasize risk-based preventive activities (GOA, 2015), which is usually preceded by detection activities and ended by the way management responds. When these three elements are properly put in place

and managed efficiently, deterrence against fraud will be enhanced, and in the overall, the organization would have a better and effective fraud risk management strategy that helps in curtailing the scourge of fraud and corruption.

### Concept of Fraud and Corruption

Fraud comes in many forms, from the category of asset misappropriation, financial statement fraud to corruption. According to Cg (2020), asset misappropriation, although least costly, can make up 90% of all fraud cases. Asset misappropriation is scheme in which an employee steals asset of his or her organization. It is a type of fraud which includes stealing of cash before or after it has been recorded, and the making false expense reimbursement claims. Financial statement fraud, which is a scheme that involves omitting or intentionally misstating information in the financial statements of an organization, comprised less than five percent of cases but caused the most median loss (Cg, 2020).

Corruption, on the other hand, fell in the middle and made up less than one-third of cases. According to Cg (2020), corruption schemes happen when employees use their influence in business transactions for their benefit while violating their duty to the employer. Examples of corruption are bribery, extortion, and conflict of interest (Okoye et al. 2017).

### Evaluation of Fraud Risk Management Activities

Effective evaluation focuses on measuring outcomes and progress toward the achievement of objectives, rather than simply reviewing outputs and progress in implementing fraud control activities. In general, researchers who evaluate research variables develop an understanding of their cause-effect. Also, chief executive officers of government Board and Parastatals need to understand all the inputs, activities, outputs, and outcomes for achieving any antifraud objective. According to GAO (2014), the US Federal law requires agencies to establish outcome-oriented goals and, as appropriate, a balanced set of performance indicators, including output and outcome indicators, to be used in measuring or assessing progress toward goals. Moreover, accounting for short-term and intermediate outcomes can help managers to identify precursors that may be more readily measured than ultimate benefits (i.e., long-term outcomes), which may take years to achieve. For example, in addition to measuring the number of fraud awareness trainings they conduct (an output), managers who evaluate short- or medium-term outcomes would also assess the results or change in behaviour following the trainings, such as the number of hotline referrals related to a specific fraud scheme covered in the training. Managers may articulate the long-term outcome for managing fraud risks in different ways, but the outcome will likely reflect the objective of managing fraud risks, which generally aims to ensure program integrity and the effective provision of funds and services.

In 2014, the Governmental Accountability Office of the United States has suggested ways in which fraud risk management activities can be evaluated and adapted. The process involves collection of sources of information about actual and potential fraud risks from reporting mechanisms, investigations and prosecutions, data mining, sanctions and debarment cases other agencies or external parties, media reports and enterprise-wide risk management initiatives. According to GAO (2014), information obtained from different sources to better understand existing and emerging fraud risks, as well as potential vulnerabilities should be properly analysed, and activities adapted by applying lessons learned from analysis of fraud risks and vulnerabilities. Finally, Potential Sources of Feedback from training and educational initiatives system edit checks, predictive-analytic models, data matching and fraud risk assessments can also be collected (GOA, 2014).

Effective management of fraud risks system communicates lessons learned from fraud risk management activities and corrective actions taken, if any, to relevant stakeholders. For instance, officials from the World Bank highlighted case studies, antifraud handbooks, and discussion groups as potential mechanisms for communicating feedback to enhance preventive activities (GOA, 2014). In addition, trainings, newsletters, and the program's website as additional mechanisms for disseminating the results of reviews and investigations. Communicating the results of evaluations can promote collaboration across the organization and with the government of the day. Suffice it to say that many literatures have publicised the results of evaluations of fraud control efforts, and these results can have a deterrent effect which can aid in fraud prevention (Okoye et al. 2017).

### The Fraud Risk Management Lifecycle

Effective management of fraud risk management lifecycle starts with a common understanding of the stages in the lifecycle (Wilhelm, 2004). The fraud risk management lifecycle is a network lifecycle where each stage in the life cycle is an aggregated entity that is made up of interrelated, interdependent and independent actions, functions and operations (Albrecht et al., 2009). The fraud risk management lifecycle is made up of some stages. For instance, deterrence stage which involves stopping fraud before it happens by increasing the difficulty of committing the fraud as fraudsters tend to migrate toward the path of most anonymity and least resistance (Wilhelm, 2004). Deterrence is achieved through creating fear of consequences or difficulty of perpetration, to turn

aside, discourage or prevent fraudulent activity from being attempted (Nyakarimi, Shano & Rukangu 2016). This could be achieved through developing and implementing the right policy. A good policy that would be capable of deterring fraud must seek to balance deterrent value, loss reduction, revenue volume, operational scalability and cost effectiveness (Wright, 2007). According to Wilhelm (2004) as stated in Kabue (2015), policy development involves constantly reassembling the situations disassembled in the analysis stage, by taking advantage of the knowledge gained by analysis, combining it with internal, external and interactive environmental factors in order to craft policies that address the whole, while leveraging the knowledge of the parts. Policy development personnel are most frequently the leaders within the fraud risk management organization as they must consider all disciplines within the fraud management department as well as the needs of the rest of the organization (Hassink et al., 2010). The investigation stage involves obtaining enough evidence and information to stop fraudulent activity, to obtain recovery of assets or restitution and to provide information and support for the successful prosecution and conviction of the fraudsters (Wilhelm, 2004). Fraud investigations are focused upon three primary areas of activity; internal investigations, external investigations and law enforcement coordination (Wilhelm, 2004). Internal investigations include investigations of employees, contractors, consultants or vendors while external investigations are conducted on customers, fraudsters and organized groups (Wilhelm, 2004). Law enforcement coordination as further argued by Gottschalk (2010) is the provision of information and other logistics to relevant law enforcement agencies. Rigorous and routine investigations provide for both an incremental lift in deterrence and the maintenance of an effective relationship with law enforcement agencies. Another stage is the prosecution stage, which is focused upon prosecutorial and judicial authorities as well as with law enforcement (Wilhelm, 2004). Prosecution is the last option that is employed to punish a fraudster so as to prevent further theft, to establish, maintain and enhance the business enterprise's reputation of deterring fraud so that the fraud community becomes aware of it and to obtain recovery or restitution wherever possible (Albrecht et al., 2009).

### Fraud Risk Management Activities

The main activities related to the management of fraud risk in an organization as provided by Risch (2012), involve a proactive approach in the allocation of roles and responsibilities that would encompass the fraud prevention, fraud detection, fraud case management, and fraud remediation.

**Table 1: Fraud Risk Management Activities**

	<b>Prevention and Early Detection</b>	<b>Case Management</b>	<b>Repair and Remediation</b>
<b>1st Line</b>	<ul style="list-style-type: none"> <li>• Install a culture of fraud risk awareness.</li> <li>• Provide fraud awareness training to staff.</li> <li>• Include fraud risk in the overall risk assessment process.</li> <li>• Incorporate fraud prevention and detection controls in the operating procedures; segregate duties, monitor adherence to policies and procedures.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure that a fraud alert hotline is installed and known to everyone in the organization.</li> <li>• Set up a process for the management of fraud cases.</li> <li>• Investigate all fraud cases in a professional and objective way.</li> </ul>	<ul style="list-style-type: none"> <li>• Make the necessary accounting entries and register losses.</li> <li>• Reimburse customers.</li> <li>• Take disciplinary action toward the perpetrator.</li> <li>• Improve internal control.</li> </ul>
<b>2nd line</b>	<ul style="list-style-type: none"> <li>• Oversee fraud risk management activities within the organization.</li> <li>• Give guidance, advice, and recommendations to line management.</li> <li>• Maintain fraud risk assessment methodology and oversight on roll out.</li> <li>• Serve as the knowledge centre on fraud risk.</li> <li>• Develop fraud detection controls.</li> </ul>	<ul style="list-style-type: none"> <li>• Report on fraud risk exposure.</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct post-mortem analyses and make recommendations to line management.</li> <li>• Monitor the evolution of fraud risk exposure.</li> </ul>
<b>3rd Line</b>		<ul style="list-style-type: none"> <li>• Provide assurance to the organization's board and senior management that fraud risk is managed in an effective way by the organization</li> </ul>	

Source: Risch (2012)



### Strategies for Fraud Prevention and Detection

It is vital to an organization, large or small, to have fraud prevention plan in place. According to a study by ACFE in 2014, it was revealed that a fraudulent activity lasted an average of 18 months before being detected (ACFE, 2014). According to Cg (2020), knowing your employees, making employees aware/setting up reporting system, implementing internal controls, monitoring vacation balances, hiring trustworthy experts and living the corporate culture are ways in which fraud occurrences can be minimized, especially when the right procedures and controls are implemented.

Fraud perpetrators often display behavioral traits that can indicate their intention to commit fraud (Okoye et al. 2017). Observing and listening to employees can help an organization to identify potential fraud risk. It is imperative for an entity to know its employees and engage them in conversation. Creating awareness can affect all employees positively. Employees are supposed to be aware of any available fraud risk policy, which should include the types of fraud and the consequences associated with them (Cg, 2020).

Another strategy for fraud prevention is the implementation of plans and/or programs of internal controls to safeguard assets, ensure the integrity of accounting records, and deter and detect fraud and corruption (Cg, 2020). This strategy can help reveal any discrepancies in the collections of revenue.

Methods of fraud detection should be in place in addition to fraud prevention strategies so as to deter any employee with the tendency to commit fraud. According to Richards, Melancon, & Ratley (nd), the visibility of these controls acts as one of the best deterrents to fraudulent behavior. Suffice it to that preventive strategies be more effective; it should be supported by effective and regular monitoring and updated fraud detection strategies. This for sure, would ensure effectiveness in the entire fraud risk management system. Anytime results emerge from fraud detection exercise, it should be capable of enhancing the existing fraud prevention controls. Once there is any fraud detection plan in place, all employees should be made aware of such a plan and how it will be implemented. Communicating any fraud risk management plan to employees is in itself a fraud prevention. Knowing that somebody is watching and will take a disciplinary action can hinder any employee who is planning to commit fraud. Occupational fraud can result in huge financial loss, legal costs, and ruined reputations that can ultimately lead to the downfall of an organization (Didio, 2019). In sum, the cost of trying to prevent fraud may be less expensive to an organization than the cost of the fraud that gets committed.

## 2. METHODOLOGY

The study employed the use of a survey research design to help in addressing the research objective. The study began by reviewing all identified concepts and theories surrounding the topic of study and as identified in the literature. In a nutshell, conceptual and theoretical frameworks were developed and studied. Also, the study gathered views of respondents, using a research questionnaire, from multiple sources, including officials from three government Boards and Parastatal: Plateau State Hospitals Management Board (HMB), Internal Revenue Service (PSIRS) and Radio and Television Corporation (PRTV). Specifically, we collected data from staff on grade level 8 and above.

In addition, we interviewed few antifraud experts from EFCC, ICPC and Police Anti – Crime/fraud units. We selected entities and respondents which are within our reach. The entities we selected had expertise in an area related to fraud risk management, such as internal audit units.

This methodology adopted requires that we plan and perform our study to obtain sufficient and appropriate data to meet our stated objective and to discuss any limitations in our work.

In a nutshell, we believe that the information and data obtained, and the analysis conducted, provide a reasonable basis for any conclusions in this product.

The sample size for purpose of completing the research questionnaire is 45, meaning 15 from each of the sampled board and parastatals (HMB, PSIRS & PRTV). Only staff on grade level 8 and above were qualified to fill our research questionnaire. While for the purpose of interview, a sample of 6 for the EFCC, ICPC and Police Anti – Crime/fraud units, with 2 persons taken from each organization.

### Research Instrument Validation

If an instrument of collection of a study is not deemed to be valid then they are meaningless to our study. The instrument employed for this study was subjected to reliability and validity testing before the actual analysis.

### Reliability and Validity Test

The research instrument that was employed for this study was subjected to both reliability and validity tests. Reliability test was carried out using Cronbach's Alpha, while, Factor analysis (KMO) was employed for the validity of the research instrument. Both case processing analysis and reliability test were conducted in the course of the study.

Table 1 shows the number of cases that was processed, of the 39 cases that was further subjected to analysis, none of the cases was found missing. The table shows that there is 100% valid case processing, probably because the all the data cleaning that was embarked on prior to the analysis.

<b>Table 2: Case Processing Summary for Reliability test</b>			
		No.	%
Cases	Valid	39	100.0
	Excluded <sup>a</sup>	0	.0
	Total	39	100.0
a. List wise deletion based on all variables in the procedure.			
Source: SPSS Version 23 Output			

Table 1 show that the research instrument can be relied on to have the ability to rightly represent the opinion of the respondents up to 99%. Table 2 shows that 39 items (questions) was processed for test, and on the average, the content of the questionnaire can be said to be well understood by respondents.

<b>Table 3: Reliability Statistics</b>	
Cronbach's Alpha	No of Items
.988	39

Source: SPSS Version 23 Output

### Validity Testing

Factor analysis (KMO) was employed to the validity of the research instrument in other to ensure the adequacy of the sample size.

<b>Table 4: KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.957
Bartlett's Test of Sphericity	Approx. Chi-Square	26148.587
	Df	38
	Sig.	.000

Source: SPSS Version 23 Output

Validity testing was carried out using Kaiser-Mayer-Olkin (KMO) and Bartlett's Test of Sphericity. These two tests establish the adequacy of the sample size whether they are sufficient enough to provide response upon which conclusion can be drawn. Table 3 revealed that Kaiser-Mayer-Olkin (KMO) represents about 96%, this implies that the sample size can be said to be adequate up to 96% to generalize for the entire population. The number is found to be highly significant at 5% significant level as shown in table 3 (sig. = 0.000). Hence, the research instrument and the sample size are adequate enough for this study.

### Method of Data Analysis

Descriptive method of data analysis was adopted using mean, standard deviation, minimum and maximum. Kendall's W – Test (Dependent means Ranks) was used to test therate offraud prevention, detection and response strategy. This model is considered appropriate because it has the ability to rank the opinion of the respondents and establish the highest ranked opinion – whether fraud prevention, detection and response strategy are effective in fraud risk management activities in government boards and parastatals. Statistical Packages for Social Sciences (SPSS) version 23 was employed for the analysis



### 3. RESULTS AND DISCUSSION

A total number of 45 copies of the questionnaire were administered to the respondents; however, only 40 copies were correctly filled and returned. The results of analysis of the responses from this number (40) are hereby presented and discussed.

#### Test of Hypotheses and Results

##### Test of Hypothesis One

H<sub>01</sub>: Fraud prevention strategy is not effective in fraud risk management activities in government boards and parastatals

**Table 5:** Descriptive Statistics showing Mean, Standard Deviation, Minimum and Maximum

	N	Mean	Std. Deviation	Minimum	Maximum
Government organization has an installed culture/ policy of fraud risk awareness in place.	40	3.7347	.95253	0.00	4.00
It includes fraud risk in the overall risk assessment process.	40	3.8776	.85714	0.00	4.00
It provides fraud awareness training to staff.	40	2.3469	.77865	0.00	4.00

The mean value implies that opinion of the respondents ranges from 2.347 – 3.878, which falls between “Agreed” and “Strongly Agreed” responses.

**Table 6: Test Statistics**

N	40
Kendall's W <sup>a</sup>	.119
Chi-Square	11.652
Df	2
Asymp. Sig.	.003
a. Kendall's Coefficient of Concordance	

The Test Statistics shows that the extent of significance of the test, the result reveals that the Asymp. Sig. is 0.003, which is less than 0.05 level of significant, this implies that the opinion of the respondents is closely related and hence unanimously agrees that fraud prevention strategy is an effective in fraud risk management activities in government boards and parastatals.

##### Test of Hypothesis Two

H<sub>02</sub>: Fraud Detection strategy is not effective in fraud risk management activities in government boards and parastatals.

**Table 7:** Descriptive Statistics, showing mean, standard deviation, minimum and maximum

	N	Mean	Std. Deviation	Minimum	Maximum
Fraud detection controls are developed and instituted.	40	3.6939	1.15838	0.00	4.00
Fraud detection can be a meaningful mechanism and can detect risky situations early, before a fraud actually occurs or at least before the losses becomes high.	40	3.7551	1.18199	0.00	4.00
Fraud prevention and detection controls are incorporated in the operating procedures such as segregation of duties, monitoring of adherence to policies and procedures.	40	3.8592	.73482	0.00	4.00

The mean value implies that opinion of the respondents ranges from 3.69 – 3.86 which is between “agree” (3) and “strongly agrees” (4). This implies that opinion of the respondents ranges between “agree” and “strongly agree”.

<b>Table 8: Test Statistics</b>	
N	40
Kendall's W <sup>a</sup>	.120
Chi-Square	12.310
Df	2
Asymp. Sig.	.008
a. Kendall's Coefficient of Concordance	

The Kendall's result reveals that the Asymp. Sig. is 0.008, which is lower than 0.05 level of significant, this implies that the opinion of the respondents is closely related and hence unanimously agrees that Fraud Detection strategy is an effective in fraud risk management activities in government boards and parastatals.

### Test of Hypothesis Three

H<sub>03</sub>: Fraud response strategy is not effective in fraud risk management activities in government boards and parastatals.

<b>Table 9: Descriptive Statistics, showing mean, standard deviation, minimum and maximum</b>					
	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Minimum</b>	<b>Maximum</b>
Government organisation has a formal fraud response plan in place.	40	3.3061	1.14025	0.00	4.00
Fraud response efforts usually inform preventive activities, such as using the results of investigations to enhance surveillance and fraud indicators.	40	3.3673	1.14016	0.00	4.00
Government organization uses fraud risk profile to help decide how to allocate resources to respond to residual fraud risks.	40	3.6531	.92536	0.00	4.00
Government organization has developed, documented, and communicated some antifraud strategies to employees and stakeholders that would help to prevent, detect, and respond to fraud, as well as monitoring and evaluation.	40	3.7755	1.02602	0.00	4.00

The mean value implies that opinion of the respondents ranges from 3.31 – 3.78 which is between “agree” (3) and “strongly agrees” (4). This implies that opinion of the respondents ranges between “agree” and “strongly agree”.

<b>Table 10: Test Statistics</b>	
N	40
Kendall's W <sup>a</sup>	.105
Chi-Square	15.412
Df	3
Asymp. Sig.	.001
a. Kendall's Coefficient of Concordance	

The Kendall's result reveals that the Asymp. Sig. is 0.001, which is lower than 0.05 level of significant, this implies that the opinion of the respondents is closely related and hence unanimously agrees that fraud response strategy is an effective in fraud risk management activities in government boards and parastatals

#### 4. DISCUSSION OF RESULTS

Government boards and parastatals are not using the appropriate strategies in their activities for managing fraud risk, except for some private sector organisations, the result of the interview that was had with some selected government officials revealed that most government organisations do not adhere strictly with the principles of internal control.

From the result of the test of hypothesis one, it was revealed that the Asymp., significance is less than 0.05 level of significant, which implies that the fraud prevention strategy can enhance effective fraud risk management activity in government boards and parastatals. The result from the test of the second hypothesis revealed that the Asymp. Sig. is lower than 0.05 which implies that fraud detection strategy can enhance effective fraud risk management activity in government boards and parastatals. Also, from the result of the test of hypothesis one, it was revealed that the Asymp., significance is less than 0.05 level of significant, which implies that fraud response strategy can enhance effective fraud risk management activity in government boards and parastatals. All these empirical findings are synonymous with the results of a study by Risch (2012).

As opined by respondents, most government entities have no official fraud deterrence policies that guide them in managing fraud risk. However, when fraud prevention strategy, together with fraud detection and quick fraud response are employed and managed efficiently, deterrence against fraud will be enhanced, and in the overall, an organization would have a better and effective fraud risk management activities.

##### Summary of Findings

1. Most government boards and parastatals are not using the strategies that the private sector is using for effective management of fraud risk;
2. Fraud prevention strategy is effective in fraud risk management activities in government boards and parastatals;
3. Fraud Detection strategy is effective in fraud risk management activities in government boards and parastatals;
4. Fraud response strategy is effective in fraud risk management activities in government boards and parastatals; and
5. Sentiments and corruption have not allowed many government boards and parastatals to put the right fraud deterrence policies in place.

#### 5. CONCLUSION AND RECOMMENDATIONS

For chief executive of government boards and parastatals to combat fraud and preserve integrity in organisations which they are manning, the study has been able to identify strategies that would help them to manage fraud risks properly and organized a workable Fraud Risk Management model. To do this, the model would have to encompass all the control activities that would help them to prevent, detect, and respond to fraud, with an emphasis on prevention, as well as putting up structures and taking into consideration environmental factors that influence or help the organisation to mitigate fraud risks. In addition, the model should be able to highlight the importance of monitoring and maintaining proper feedback loop, which are global best practices.

In order to ensure fraud prevention, government should employ strategies such as installing culture/ policy of fraud risk awareness in place; provides fraud awareness training to staff; includes fraud risk in the overall risk assessment process; and government organization should have a formal reporting system on fraud risk exposure.

To detect frauds, strategy such as Fraud detection controls should be developed and instituted; Fraud detection can be a meaningful mechanism and can detect risky situations early, before a fraud actually occurs or at least before the losses becomes high. When fraud prevention and detection controls are incorporated in the operating procedures such as segregation of duties, monitoring of adherence to policies and procedures is significantly enhanced, and fraud case incidence can be highly minimised.

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The authors declare that there are no conflicts of interests.

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##### Data and materials availability:

All data associated with this study are present in the paper.

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